

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF SOUTH KENTUCKY RURAL )	
ELECTRIC COOPERATIVE CORPORATION )	
FOR A CERTIFICATE OF CONVENIENCE )	CASE NO.
AND NECESSITY TO INSTALL AN )	2009-00489
ADVANCED METERING INFRASTRUCTURE )	
SYSTEM (AMI) )	

ORDER

South Kentucky Rural Electric Cooperative Corporation (“South Kentucky”) filed its application on December 10, 2009, for a Certificate of Public Convenience and Necessity (“CPCN”) to install an Advanced Metering Infrastructure System (“AMI”). South Kentucky is preparing to install an AMI system as a component of Smart Grid technology and has chosen to install the Aclara Two-Way Automatic Communications System (“TWACS”) technology. South Kentucky has been granted a \$9.5 million matching grant from the U.S. Department of Energy to automate its electric metering system. South Kentucky states that it will construct an AMI system using general funds and the matching grant until such time as new loan funds are needed, at which time it will submit loan applications to the Rural Utilities Service. It states that the loan proceeds will be used to reimburse general funds and complete the proposed AMI project.

The estimated cost of the AMI system is \$19.5 million. Equipment costs will be the largest portion of the cost, totaling \$13.5 million, which includes software and support, 67,500 GE meters with the AMI modules installed for single-phase residential

accounts, 1,800 single-phase transformer rated and three-phase meters and load control switches, one spare-parts kit for a substation, 42 specially built pad-mount transformers for substations, 42 power line carrier equipment setups for substation installation, various spare meter base parts, and 42 DSL connections for communication. There will be \$600,000 in transportation costs for visiting each site to change the meter, perform any meter base repair, and check the connections on the service entrance. The remaining \$5.4 million is for labor and fringe benefits associated with the installation and maintenance of the system.

South Kentucky states that the benefits of the AMI system will include: better service as a result of eliminating estimated meter readings; a reduction in billing errors through better monitoring and greater detail of electric usage; greatly reducing the number of necessary visits to customers' premises for meter reading, connections, and disconnections (also removing vehicles from the road and reducing CO<sub>2</sub> emissions); improved outage response times; remote verification of restoration status and the ability to better locate the source of each outage; new demand-side management options, including load management, load aggregation, and rate options; increased revenue through the reduction of line losses (due to better collection and utilization of load data); delayed upgrades to electric facilities due to better knowledge of line and transformer loading; and reduction of energy theft through the use of tamper detection and better monitoring of consumer usage.

South Kentucky cites a number of cost-savings benefits as a result of the installation of the AMI system as well, including the elimination of manual meter reading and service connection and disconnection expenses. The large reduction in the number

of field service trips will have a corresponding reduction in expenses for vehicle fuel and upkeep.

AMI will also improve outage response time by helping locate the cause of an outage. It can also verify whether all the consumers on a line have been returned to service, thus avoiding inadvertently leaving consumers out of service who may not be at home to notify South Kentucky of the outage. Outage identification will also allow South Kentucky to identify and concentrate restoration efforts on critical facilities necessary for first responders and homeland security.

South Kentucky states that its AMI system will identify malfunctioning meters and higher-than-expected usage, which will reduce the number of billing adjustments and will improve consumer satisfaction. According to the evidence presented by South Kentucky, the new electronic meters will retain their accuracy over time much better than electromechanical meters. This better registration of energy use will lead to a reduction in line loss and a corresponding benefit to all consumers by assuring accurate billing of all accounts.

Importantly, the new AMI system will allow for the development of Time-of-Use rates which will allow members to move their electric usage to “off peak” hours. This will reduce the need for generation, transmission, and distribution capacity. Load control will be implemented with the installation of devices on water heaters, air conditioners, and swimming pool pumps. These demand-reduction measures will also help reduce the need for new generation, transmission, and distribution capacity.

## ANALYSIS

South Kentucky has provided a thorough description of the TWACS technology it proposes to install on its system. TWACS technology has been implemented by several other Kentucky electric cooperatives and provides two-way communication between the utility and the meter. TWACS meters also have the capability of being used with other AMI systems.

South Kentucky identifies several benefits of AMI technology that should improve its efficiency of operations and/or service to its customers. It also identifies a number of cost-saving benefits associated with AMI technology which are expected to inure to the benefit of its members.

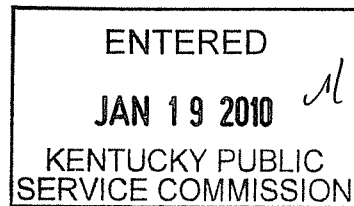
In 2007, South Kentucky established a committee to evaluate the installation of an Automated Meter Reading ("AMR") system. In 2009, the United States Department of Energy began accepting applications for Smart Grid funding, which prompted South Kentucky to change its focus from an AMR to an AMI system. This resulted in South Kentucky pursuing the project for which it now seeks our approval through the grant of a CPCN. The Commission has become increasingly aware of the advantages, as well as the costs, of installing Smart Grid technology on electric distribution systems. The costs are not insignificant, but through its successful efforts to obtain Smart Grid Investment Grant funding, South Kentucky effectively reduced the cost of installing AMI technology on its system by one-half. The Commission commends South Kentucky for undertaking such efforts on behalf of its member-owners.

SUMMARY


The Commission, having considered the evidence of record and being otherwise advised, finds that South Kentucky's request for a CPCN to install a TWACS AMI system is reasonable and should be approved.

It is hereby Ordered that South Kentucky is granted a CPCN to install the TWACS AMI system as described in its application.

By the Commission



ATTEST:

  
\_\_\_\_\_  
Executive Director

Stephen Johnson  
Vice President of Finance  
South Kentucky R.E.C.C.  
925-929 N. Main Street  
P. O. Box 910  
Somerset, KY 42502-0910

Honorable Darrell L Saunders, P.S.C.  
Attorney at Law  
700 Master Street  
P.O. Box 1324  
Corbin, KY 40702